4 The diagram shows a shape made up of three semicircles, enclosing a right-angled triangle.

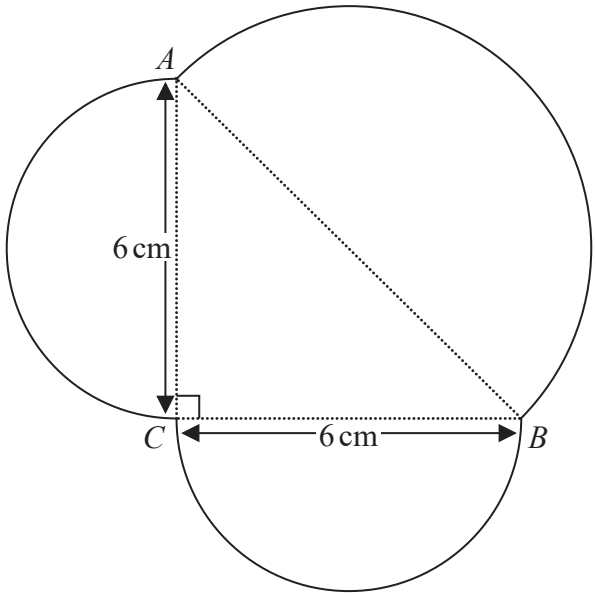


Diagram **NOT** accurately drawn

AB, *BC* and *CA* are each the diameter of a semicircle.

BC = *CA* = 6 cm.

Work out the perimeter of the shape.
Give your answer correct to one decimal place.

..... cm

(Total for Question 4 is 5 marks)

5 The diagram shows a shaded shape made from three identical semicircles, ***X***, ***Y*** and ***Z***

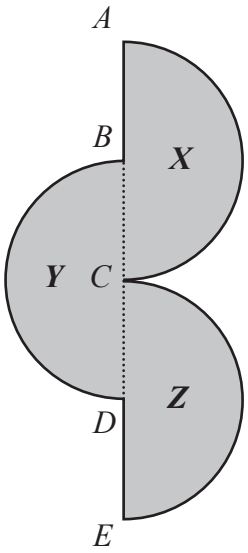


Diagram **NOT** accurately drawn

ABCDE is a straight line.

AC is the diameter of semicircle ***X*** and *B* is the centre of semicircle ***X***
BD is the diameter of semicircle ***Y*** and *C* is the centre of semicircle ***Y***
CE is the diameter of semicircle ***Z*** and *D* is the centre of semicircle ***Z***

$AC = BD = CE = 20$ cm

Work out the perimeter of the shaded shape.
Give your answer correct to the nearest whole number.

..... cm

(Total for Question 5 is 3 marks)

6

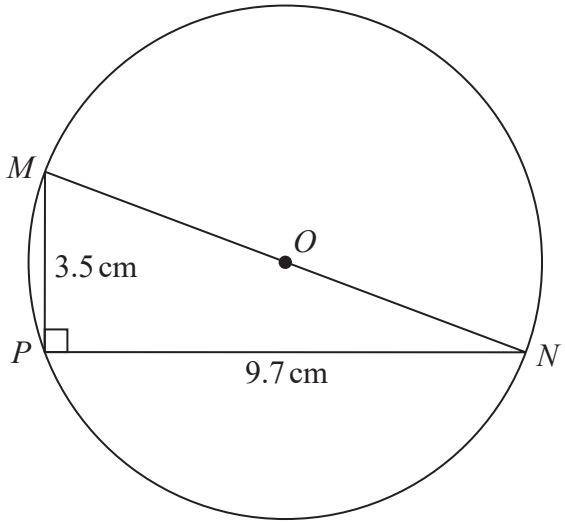


Diagram **NOT** accurately drawn

M, *N* and *P* are points on a circle, centre *O*.
MON is a diameter of the circle.

MP = 3.5 cm
PN = 9.7 cm

Angle *MPN* = 90°

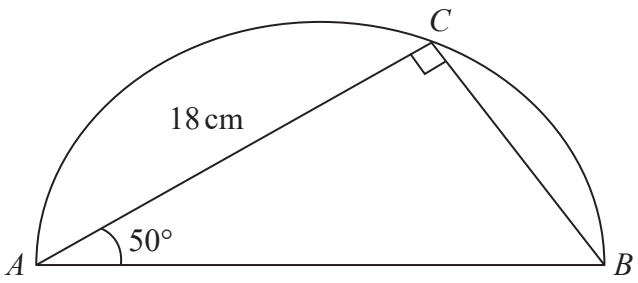
Work out the circumference of the circle.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 6 is 4 marks)

8 The diagram shows a triangle ABC inside a semicircle.

Diagram **NOT** accurately drawn



A, B and C are points on the semicircle.

AB is the diameter of the semicircle.

Angle $ACB = 90°$
Angle $BAC = 50°$
$AC = 18$ cm

Work out the perimeter of the semicircle.
Give your answer correct to 2 significant figures.

..... cm

(Total for Question 8 is 5 marks)

9 In the diagram, *ABC* is a right-angled triangle and *DEF* is a semicircular arc.

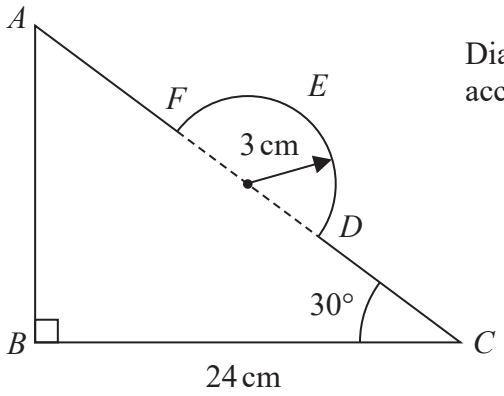


Diagram **NOT** accurately drawn

In triangle *ABC*

$BC = 24$ cm angle $ABC = 90°$ angle $BCA = 30°$

The points *D* and *F* lie on *AC* so that *DF* is the diameter of the semicircular arc *DEF*
The radius of the semicircular arc is 3 cm.

Work out the length of *AFEDC*
Give your answer correct to 2 significant figures.

..... cm

(Total for Question 9 is 5 marks)

11 The diagram shows a shaded shape *ABCD* made from a semicircle *ABC* and a right-angled triangle *ACD*.

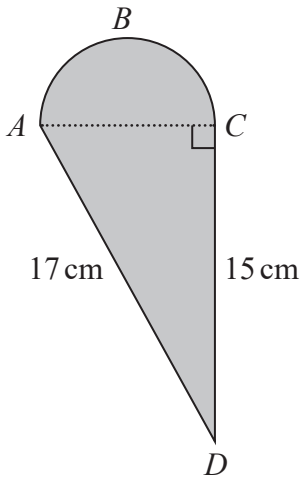


Diagram **NOT** accurately drawn

AC is the diameter of the semicircle *ABC*.

Work out the perimeter of the shaded shape.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 11 is 5 marks)